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LETTER TO THE EDITOR

Bullous dermatosis associated with complex regional pain syndrome

Dear Editors,

Complex regional pain syndrome (CRPS) is a painful, debilitating condition usually affecting the extremities, which usually follows trauma. The cause of CRPS is unknown, although it has been associated with the dysregulation of the central and autonomic nervous systems. Cutaneous changes are common and often critical for the diagnosis of CRPS.

A 59-year-old man presented in 2012 with a blistering and erosive dermatosis affecting the legs. He had a past medical history of hypertension and gout. In 1997, he sustained a work-related traumatic injury to the left patella. In 2003, he had a fall, resulting in a left ankle fracture. This was managed conservatively. Following the first injury, he developed severe burning leg pain. This was subsequently attributed to CRPS. Shortly after, he began to develop skin lesions over the affected leg, with clear fluid-filled bullae and circular erosions (Figure 1A and B). These were initially localised to the left lower leg but then progressively extended up to the thigh. There was no associated itch. Some of the blisters healed with scarring but no milia.

A few years later, he developed similar lesions on the right leg. On examination, there were extensive erythematous and erosive changes of both shins, extending up to the thigh on the left (Figure 2A and B). There were no mucosal lesions or nail dystrophy. Skin biopsies showed a mixed perivascular inflammatory infiltrate. Bacterial and viral cultures, immunofluorescent studies and antinuclear antibodies were negative. Type VII collagen mutational analysis was negative.

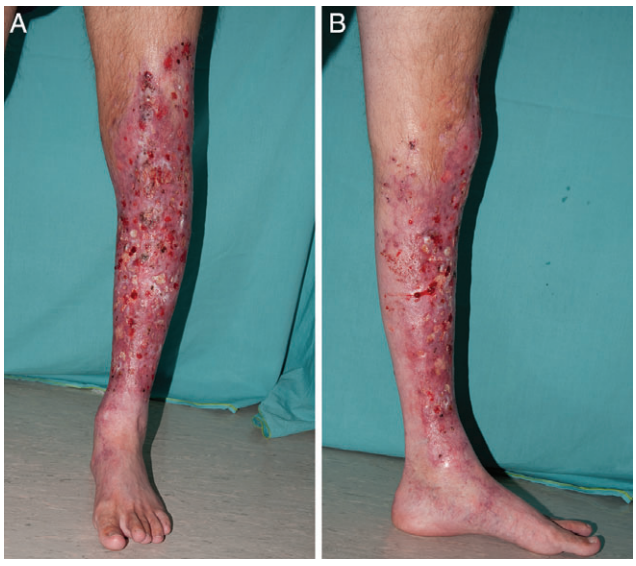

Figure 1 Flaccid blisters and erosions on left leg.

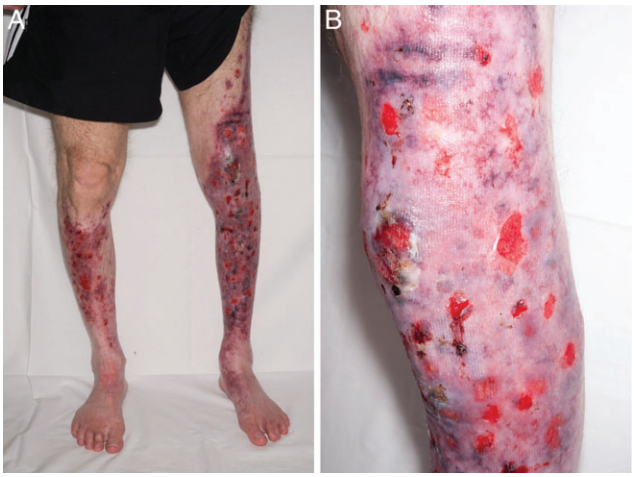

Figure 2 Purple-red discolouration of both legs with widespread erosions.

The differential diagnoses of immunobullous disorders and inherited bullous dermatoses in particular dystrophic epidermolysis bullosa were therefore excluded. Consequently, the cutaneous eruption was attributed to neurological stimulation from CRPS. Topical steroids and calcineurin inhibitors failed to provide any benefit. Systemic agents including methylprednisolone, acitretin, cyclophosphamide and infliximab were ineffective. Compression bandaging resulted in minimal improvement of the skin lesions. In addition, he required high doses of analgesics, including opiates, gabapentin and amitriptyline. He eventually underwent a spinal cord stimulator implantation, but this only marginally relieved his pain. The skin changes have remained persistent.

CRPS is a poorly understood disorder with an unclear pathogenesis. Skin manifestations of CRPS are highly variable: oedema and erythema are found in most patients, while dermatitis, erythematous papules, folliculitis, cutaneous atrophy and ulceration have also been reported (1). Reports of blistering eruptions are exceedingly rare. Webster *et al.* reported recurrent bullae with chronically oedematous legs in two of nine patients with CRPS. Ultrastructural evaluation of a biopsy sample from one patient demonstrated abnormalities in the basement membrane and anchoring fibrils (2). A 33-year-old woman with CRPS of the left arm following a rotator cuff tear developed bullae as well as ulcerating papules and hyperpigmentation. Her pain settled completely following a sympathetic ganglionectomy. Interestingly, the skin lesions also resolved within a week, with no recurrence at eight months (3). In a recent case report, a 25-year-old woman with an above-knee amputation following a

crush injury to the left leg developed stump pain associated with erythema and tense bullae. She subsequently developed a spinal abscess around an intrathecal pump, which resulted in paraplegia. Her left stump pain, as well as the blisters and other cutaneous features of CRPS, resolved fully. A total of 19 months after the event, she remained symptom free with no skin lesions. The authors therefore postulated that a neurogenic mechanism underlies the cutaneous manifestations of CRPS (4). Our case represents the fifth report of bullous eruptions in CRPS. The persistence of bullous dermatosis in our patient not only highlights the difficulty in managing this condition but also supports the hypothesis that a common pathogenesis is responsible for both pain and blisters in these rare cases.

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